DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: HORN POND	Lake Area (ha):	80.13
Town: WAKEFIELD	Maximum depth (m):	9.1
County: Carroll	Mean depth (m):	3.9
River Basin: Coastal	Volume (m^3) : 315	5000
Latitude: 43°33'42" N	Relative depth:	0.9
Longitude: 70°57'31" W		2.02
Elevation (ft): 554	Areal water load (m/yr): 3	
Shore length (m): 6400	,	8.20
Watershed area (ha): 4656.3		0.42
<pre>% watershed ponded: 18.7</pre>	Lake type: natural w	/dam

BIOLOGICAL:	9 January 1996	15 August 1995
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 85%	CHRYSOSPHAERELLA 35%
#2	DINOBRYON 10%	ASTERIONELLA 25%
#3		CERATIUM 5%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		5.93
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 25%	KERATELLA 29%
#2	POLYARTHRA 13%	NAUPLIUS LARVA 25%
#3		
ROTIFERS/LITER	29	41
MICROCRUSTACEA/LITER	16	40
ZOOPLANKTON ABUNDANCE (#/L)	52	84
VASCULAR PLANT ABUNDANCE		Sparse
SECCHI DISK TRANSPARENCY (m)		6.9
BOTTOM DISSOLVED OXYGEN (mg/L)	8.7	0.3
BACTERIA (E. coli, #/100 ml) #1		20
#2		9
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 7.0 Hypolimnion volume (m^3) : None Anoxic volume (m^3) : 38350

CHEMICAL:			HORN PONI		
	9 Janua	ary 1996	15 /	August 199	95
DEPTH (m)	3.0	6.0	3.0		7.5
pH (units)	6.0	6.1	7.1		6.6
A.N.C. (Alkalinity)	7.2	8.7	7.9		11.6
NITRATE NITROGEN	< 0.10	< 0.10	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.14	0.18	0.18		0.27
TOTAL PHOSPHORUS	0.004	0.004	0.005		0.009
CONDUCTIVITY (µmhos/cm)	58.1	57.7	54.4		58.4
APPARENT COLOR (cpu)	23	24	30		45
MAGNESIUM			0.64	-, -, -, -, -, -, -, -, -, -, -, -, -, -	
CALCIUM			3.5		
SODIUM			4.9		
POTASSIUM			0.41		
CHLORIDE	9	9	9		8
SULFATE	4	4	4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3
TN : TP	35	45	36		30
CALCITE SATURATION INDEX			2.8		

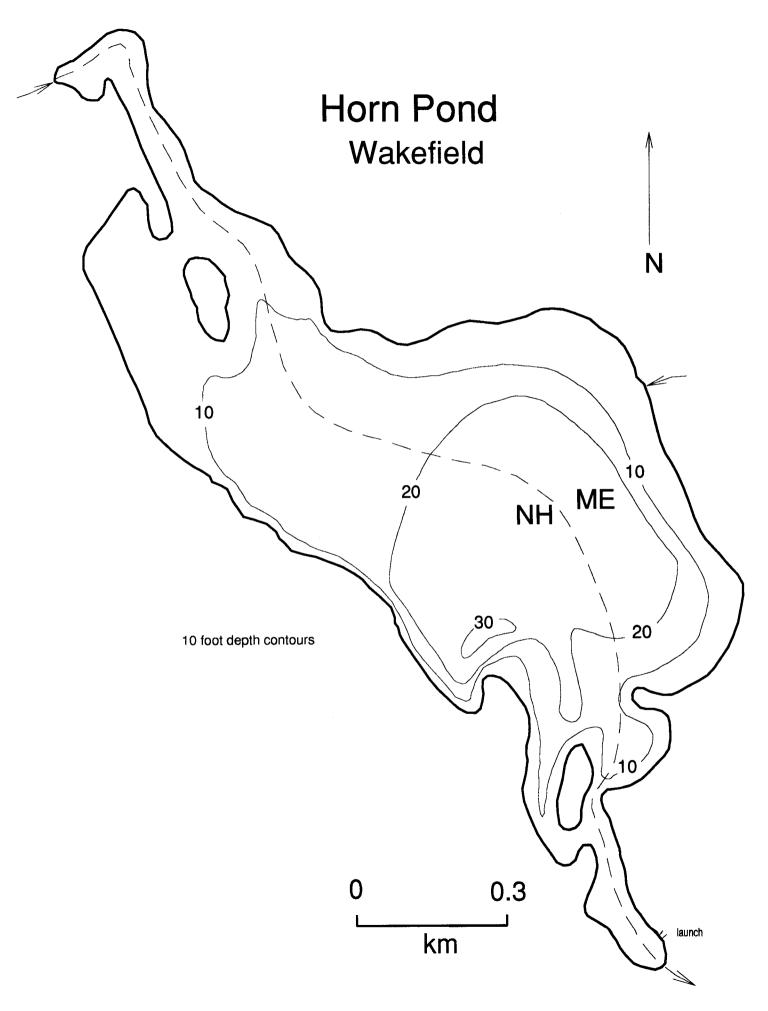
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1995

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	1	0	1	2	Oligo.

COMMENTS:

- 1. A.K.A. Horns Pond.
- 2. This pond was previously surveyed and classified in 1982. There was no change in trophic classification and little change in water quality between the two years. A deeper depth was sampled in 1995 which accounts for the lesser dissolved oxygen present at the bottom of the pond.
- 3. Horn Pond participated in DES' Volunteer Lake Assessment Program for three years (1993-95). Sufficient data is not available to evaluate trends in water quality.
- 4. Horn Pond is a natural pond raised by a dam on the Salmon Falls River forming the border between New Hampshire and Maine. An excellent boat ramp is present on the Maine side near the dam.



FIELD DATA SHEET

LAKE: HORN POND TOWN: WAKEFIELD

DATE: 08/15/95 WEATHER: CLOUDY

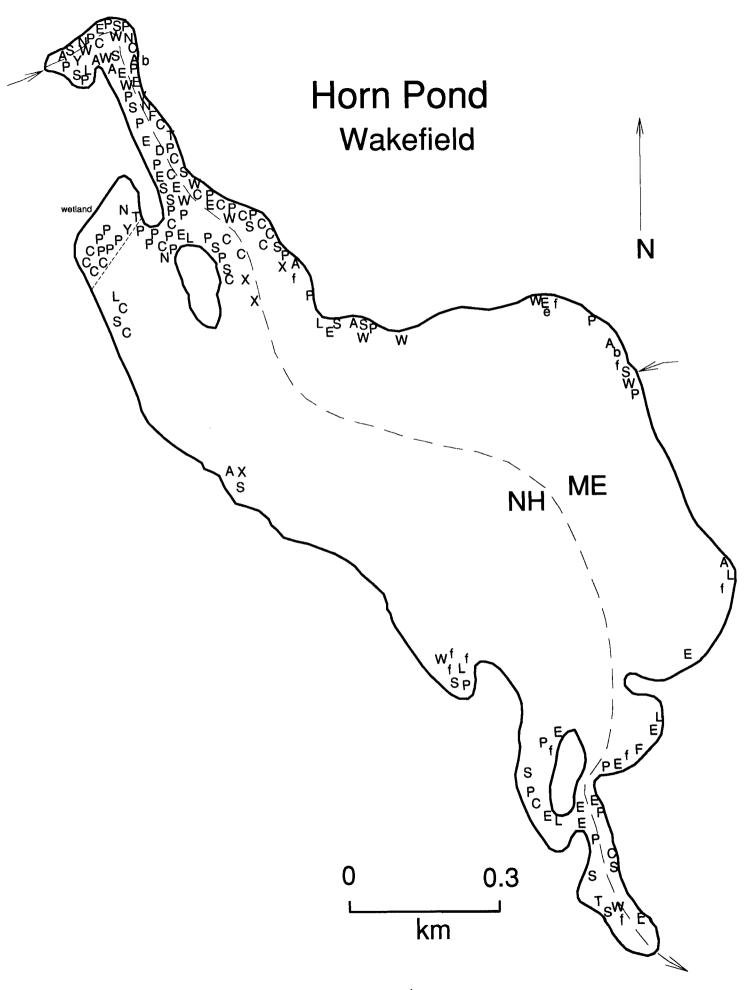
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	25.1	8.4	101 %
 1.0	25.1	8.3	100 %
2.0	25.1	8.4	100 %
 3.0	25.0	8.3	100 %
4.0	24.9	8.3	98 %
5.0	24.8	8.1	96 %
6.0	23.6	8.0	91 %
7.0	20.8	3.8	41 %
8.0	17.9	1.0	9 %
8.5	16.4	0.3	3 %
		1 1	

SECCHI DISK (m): 6.9 COMMENTS:

BOTTOM DEPTH (m): 9.0

TIME: 1315

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAKE: HORN POND	TOWN: WAKEFIELD	DATE: 08/15/95
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LINK	E. HORN FOND	201111	
***	PLANT	NAME	ABUNDANCE
Key	GENERIC	COMMON	ABONDANCE
P	Pontederia cordata	Pickerelweed	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
f	Chlorophyceae	Filamentous green algae	Sparse
F	Nymphoides cordatum	Floating heart	Sparse
L	Lobelia dortmanna	Water lobelia	Sparse
A	Sagittaria	Arrowhead	Sparse
W	Potamogeton	Pondweed	Sparse
b	Scirpus	Bulrush	Sparse
S	Sparganium	Bur reed	Sparse
е	Elodea nuttallii	Waterweed	Sparse
Х		Sterile thread-like leaf	Sparse
С	Cyperaceae	non-flowering sedge	Sparse
T	Typha	Cattail	Sparse
N	Nymphaea	White water lily	Sparse
v	Vallisneria americana	Tape grass	Sparse
d	Dulichium arundinaceum	Three-way sedge	Sparse
Y	Nuphar	Yellow water lily	Sparse

OVERALL ABUNDANCE: Sparse

GENERAL OBSERVATIONS:

- 1. Plants were locally abundant in the northern inlet area which is very shallow except for the narrow river channel. The area between the northern island and north shore was blocked to boat traffic because of dense pickerelweed and sedge growth. When the lake is taken as a whole, however, the overall plant growth was rated as sparse.
- 2. Two loons were observed.